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CPSU/UH Avian History Report 4

HISTORY OF ENDEMIC HAWAIIAN BIRDS

Part I. POPULATION HISTORIES--SPECIES ACCOUNTS INTRODUCTION

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ABSTRACT

The purpose and scope of Part I: Population Histories--Species Accounts is presented. Organization of geographical, chronological, and bibliographical details is explained. Assistance in obtaining information is acknowledged.

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INTRODUCTION

Sound evaluation of the present and future status of Hawaiian birds depends in part upon detailed understanding of their history. Initial information on relative abundance and geographical distribution of some species may be minimal and quite old. Later observers, aware of widespread decline, collectively left a large body of almost impossibly scattered information. The goal in the present project is to assemble as many of the nearly hopelessly tangled historical records as possible, before they become irretrievably lost, organize them in a comprehensive format, examine such patterns as may emerge, and draw conclusions which seem justified by the facts. Causes of historical change in relative abundance and distribution of species will be treated before drawing final conclusions in the light of contemporary ecological theory in Part 111: History, Ecology, and Conclusions, later.

It is necessary at the outset to concede that it is practically impossible to corral all records which shed light on the history of Hawaiian birds. The goal of completeness becomes increasingly difficult as one approaches the contemporary period. Much information in the recall ability and field notes of observers is inevitably lost through failure to keep and publish records.

Documentation in the following species accounts has been drawn from museum specimen labels, notes of both Living and deceased field observers, government records, interview of long-term residents, personal correspondence, and exhaustive review of the available published literature. Principal cut-off dates for gathering information were: 1972 for accession of field notes by other observers, information from government files and older published literature; 1973 for field surveys and interviews; 1976 for museum specimen label data. Information received as a result of personal communications and review of literature published since 1976 continues to be incorporated on a current basis to the extent feasible.

Any systematically organized body of information speaks largely for itself. Serious students of Hawaiian ornithology are therefore invited to carefully study the records themselves. Although recitation of records may appear repetitive in some cases, continuous documentation of a species' presence in a given locality provides an essential standard against which to measure time and degree of future change. While need for a comprehensive analysis furnished the basic justification for conducting a thorough search for information in the first place, documentation for future reference and study fills an equally compelling need.

No claim is made that this work is either exhaustive or that it has been accomplished without error. Individuals having access to records which correct, supplement, or contradict findings contained herein are urged to publish the relevant facts, particularly where such information may affect conclusions drawn. If corrections and periodic updating are accomplished, future biologists will have access to a common bank of factual data to which all may refer, and both science and resource management will therefore benefit.

SPECIES ACCOUNTS

As explained in the Introduction to the overall work (CPSU/UH Avian History Report 1), all recent endemic Hawaiian birds have been classified according to one of four ecologically similar groups--Sea Birds, Forest Birds, Freshwater Birds, and Scrub-Grassland Birds. The population history of each species is treated in phylogenetic order within each of these groups.

Historical accounts consist of a textual analysis of each species, presentation of records in an Appendix, and bibliography. The analysis is composed of a brief introduction, including description, congeners, and basic references to the species; an analysis of geographical and chronological characteristics of the records, including extra-limital distribution; remarks on completeness of data and erroneous or doubtful records; summary and conclusion; and bibliography, including unpublished sources cited. All parenthetical references in text having less than four digits refer to the serial number of the record found in the Appendix.

Observations, reports, and museum records of the various species and subspecies are organized systematically in the Appendix to meet three essentially interdependent goals: (1) to document what has been recorded of range and relative abundance of each bird; (2) to provide maximum opportunity to detect changes in its geographical distribution and population status over time; and (3) to preserve the historical record in as concise and original a form as possible. To satisfy these multiple objectives records have been extracted from all available sources by species, arranged according to geographical area, and ordered in chronological sequence, beginning with the earliest.

GEOGRAPHICAL ARRANGEMENT

Systematic detailed treatment of the geographical distribution of birds in the Hawaiian Archipelago requires selection of a basic unit of area for the larger islands. In this case, standard USGS 1:24,000-scale topographic quadrangles were selected for the islands of Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i. To facilitate discussion in the analyses, the 1:24,000-scale quadrangles of the three largest islands, O'ahu, Maui, and Hawai'i, have been further arranged into convenient physiographical districts. Data from National Parks on Maui and Hawai'i are treated separately. Hawaiian names of sub- or supra-quadrangle land divisions (ahupua'a) are also used to convey a more exact sense of land area in some cases. To accommodate records relating to unspecified places, or those having reference to more than one 1:24,000-scale quadrangle map, the supra-headings "Island-wide Inference," "Undesignated Locality," "Multiquadrangle," etc., were created for the largest five islands. Records from small islands such as the Northwestern Hawaiian Islands (Fig. 1), Ni'ihau, Lāna'i, and Kaho'olawe are addressed holistically, by island. The order of treatment for species which occur naturally on more than one island is from north to south. Names, locations, and chronology of quadrangle and district accounts for the Southeastern Hawaiian Islands are indicated in order of treatment in Figures 2 and 3.

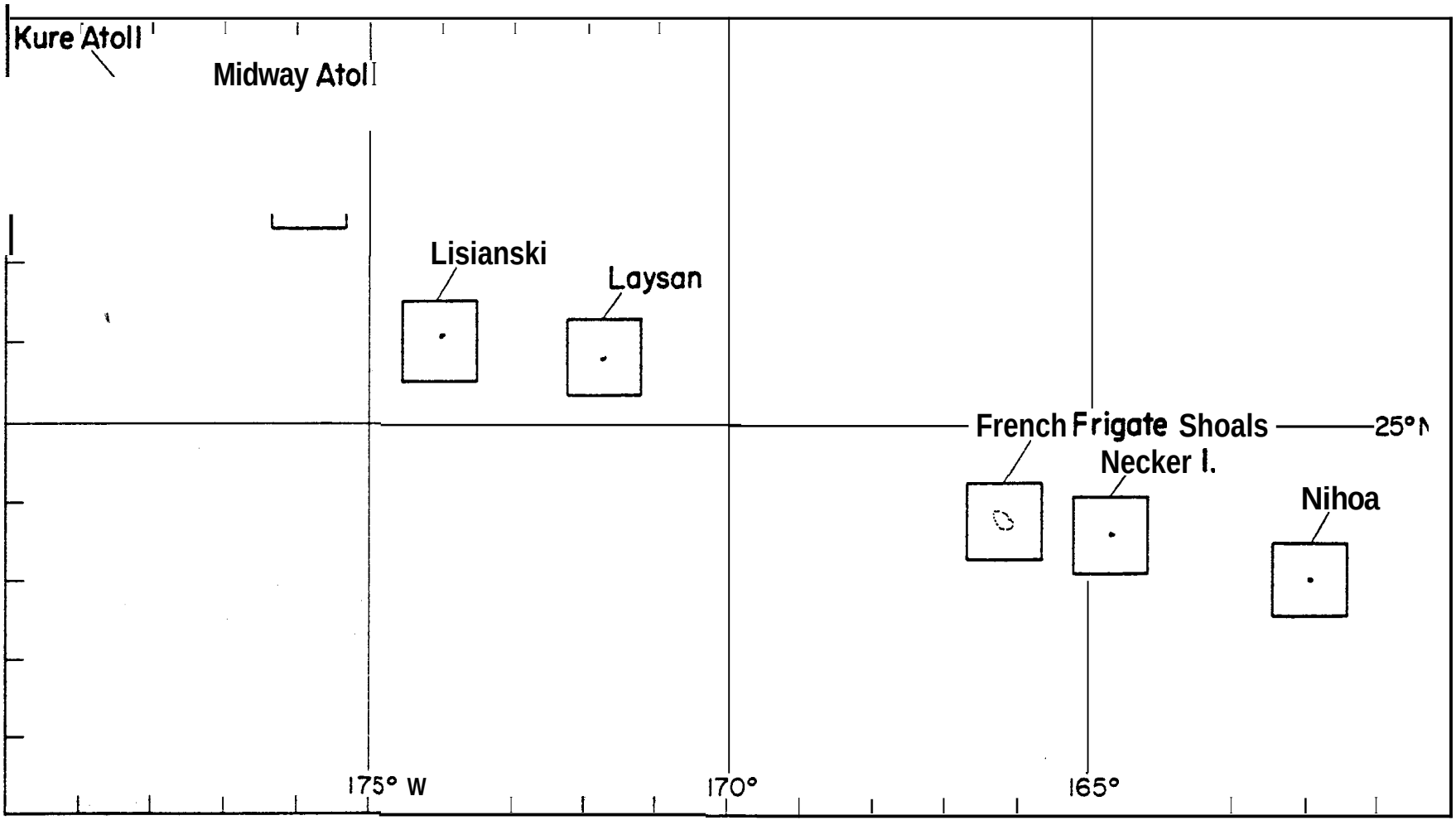

FIGURE 1. Map showing latitude and longitude of the Northwestern Hawaiian Islands.

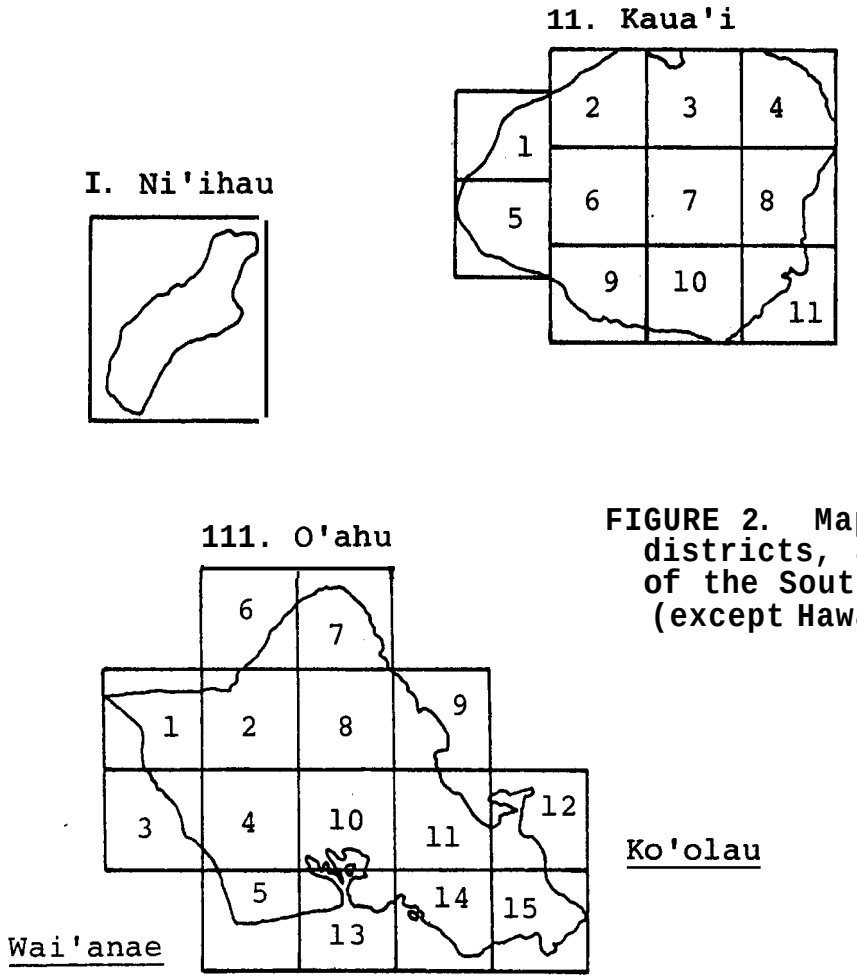

FIGURE 2. Maps showing quadrangles, districts, and order of treatment of the Southeastern Hawaiian Islands (except Hawai'i).

VIII. HAWAI'I

a. Kohala

1. Māhukona
2. Hāwī
3. Honokāne
4. Keawanui Bay
5. Kawaihae
6. Waimea (Kamuela)
7. Kukuihaele

b. Kona

8. 'Anaeho'omalu
9. Pu'u Hīna'i
10. Makalawena
11. Kīholo
12. Pu'u Anahulu
13. Keāhole Point
14. Kailua
15. Hualālai
16. Kealakekua
17. Pu'u Lehua
18. Hōnaunau
19. Kaunene
20. Ka'ū Loa Point
21. Pu'u Pōhakuloa
22. Miloli'i
23. Pāpā

c. Ka'ū

24. Pu'u Hou
25. Ka Lae
26. Manukā Bay
27. Pōhue Bay
28. Kahuku Ranch
29. Na'alehu
30. Pu'uōke'oke'o
31. Punalu'u
32. Pāhala
33. 'Ālika Cone
34. Keaīwa Reservoir
35. Wood Valley
36. Sulphur Cone
37. Mauna Loa
38. Kīpuka Pakēkakē
39. Pu'u o 'Uo
40. Kokoolau
41. Pu'u 'Ula'ula
42. Kūlani

d. Kīlauea

43. Nāli'ikakani Point
44. Ka'ū Desert
45. Makaopuhi Crater
46. Kalapana
47. Kīlauea Crater
48. Volcano
49. Kalalua
50. Pāhoa South
51. Kapoho
52. Pu'u Maka'ala
53. Mountain View
54. Pāhoa North
55. Kea'au Ranch

e. Mauna Kea

56. Nā'ōhule'elua
57. Pu'u Koli
58. Pu'u 'Ō'ō
59. Upper Pi'ihonua
60. Pi'ihonua
61. Hilo
62. Ke'āmuku
63. Ahumoa
64. Mauna Kea
65. Pu'u 'Ākala
66. 'Akaka Falls
67. Pāpa'ikou
68. Nohona o Hae
69. Makahālau
70. 'Umikoa
71. Keanakolu
72, Pāpa'aloa
73. Honoka'a
74. Kūka'iau

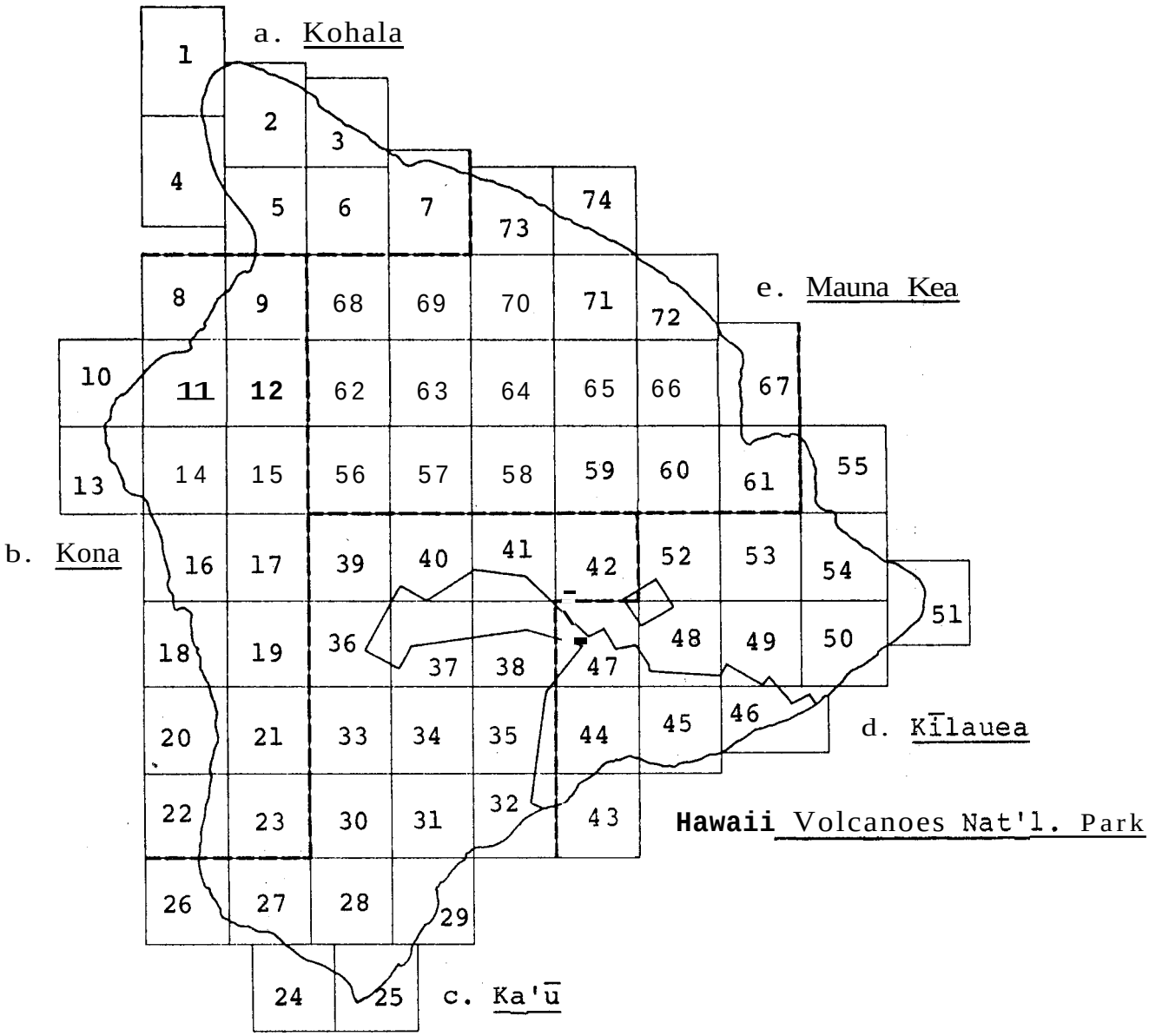

FIGURE 3. Map showing quadrangles, districts, and order of treatment of the Island of Hawai'i.

ORGANIZATION OF RECORDS IN APPENDIXES

The format developed for presentation of records consists of five basic elements arranged as a line item. Various components of each record and definition of each element are as follows:

1. Serial Number. Each record is numbered serially to permit a brief reference to it in the text of the analysis.

2. Relative Abundance. Information pertaining to population status, including time of day or other details is presented first in as nearly the original context as feasible. End of the citation is followed by a slash mark (/) separating this subject from that of location which is presented next.

3. Locality.
   a. Names of places or areas are transcribed as faithfully as feasible, including anglicized spelling of Hawaiian place-names. Where localities are doubtful, best guesses are sometimes shown parenthetically with a question (?).
   b. Distances are in miles and decimal fractions thereof, e.g., one and a quarter miles = 1.25 miles.
   c. Directions of the compass are abbreviated, e.g., S=south, NE=northeast, etc.
   d. Elevations are listed in a supplementary column and represent feet above sea level, conforming to standard USGS (U. S. Geological Survey) unit of measurement on their maps.

4. Date. Date information (usually date observed) is shown in day-month-year sequence. Parenthetical data usually indicate date of publication or other similar qualification. For example, implied dates are shown in parentheses with a question, (early 1900's?).

5. Source. The source of each published or unpublished record is shown in abbreviated style in the last column. For published sources, the first three letters of the author's last name, first letter of first name, last two digits of year of publication, and alphabetical letter sequence denoting order of publication in that year, are given in sequential order. Unpublished information is indicated by a parenthetical number, referring the reader to the Unpublished Sources Cited section of the bibliography.

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